We claim:

1. A ruminant feed ration for a ruminant, the ration comprising:

a plurality of natural or synthetic feed ingredients which comprises one or more grains;

a hydroxy analog of methionine selected from the group consisting of 2-hydroxy-4-(methylthio)butanoic acid, ammonium salts of 2-hydroxy-4-(methylthio)butanoic acid, alkaline earth salts of 2-hydroxy-4-(methylthio)butanoic acid, alkali earth salts of 2-hydroxy-4-(methylthio)butanoic acid, zinc salts of 2-hydroxy-4-(methylthio)butanoic acid, alkane esters of 2-hydroxy-4-(methylthio)butanoic acid, alkane amides of 2-hydroxy-4-(methylthio)butanoic acid, and oligimers of 2-hydroxy-4-(methylthio)butanoic acid, ~~and~~ and, optionally a bypass fat;

wherein the amount of hydroxy analog of methionine is included within the ruminant feed ration at a level determined to be necessary to meet the methionine requirements of the ruminant, said methionine requirements being determined from the nutritional content of the ingredients other than the hydroxy analog of methionine and on the basis that at least 20% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

2. The ruminant feed ration of claim 1 wherein the hydroxy analog of methionine is a salt of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of ammonium, magnesium, calcium, lithium, sodium, potassium, and zinc.

3. The ruminant feed ration of claim 2 wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

4. The ruminant feed ration of claim 2 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

5. The ruminant feed ration of claim 1 wherein the hydroxy analog of methionine is an ester of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of methyl, ethyl, 2-propyl, butyl, and 3-methylbutyl.

6. The ruminant feed ration of claim 5 wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

7. The ruminant feed ration of claim 5 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

8. The ruminant feed ration of claim 5 wherein the hydroxy analog of methionine is 2-propyl ester of 2-hydroxy-4-(methylthio)butanoic acid.

9. The ruminant feed ration of claim 1 wherein the hydroxy analog of methionine is an amide of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of methylamide, dimethylamide, ethylmethylamide, butylamide, dibutylamide, and butylmethylamide.

10. The ruminant feed ration of claim 9 wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

11. The ruminant feed ration of claim 9 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

12. The ruminant feed ration of claim 1 wherein the hydroxy analog of methionine is an oligimer of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of dimers, trimers, and tetramers of 2-hydroxy-4-(methylthio) butanoic acid.

13. The ruminant feed ration of claim 12 wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

14. The ruminant feed ration in any of claim 1 wherein the ruminant feed ration does not comprise a bypass fat.

15. The ruminant feed ration of claim 1 wherein the amount of the hydroxy analog of methionine is determined by a nutritional model wherein the nutritional model is a computer program.

16. A total mixed ration wherein the ruminant feed ration of claim 1 is mixed with forage.

17. The total mixed ration of 16 wherein the forage is a haylage, silage, or mixture thereof.

18. A process for satisfying the nutritional requirements of a ruminant for methionine wherein the ruminant feed ration of claim 1 is provided to the ruminant.

19. The process of claim 18 wherein the ruminant feed ration is provided to a ruminant during the early lactation period or close-up dry period of the ruminant's lactation cycle.

20. The process of claim 18 wherein the hydroxy analog of methionine is a salt of 2-hydroxy-4-(methylthio)butanoic acid selected from the group consisting of ammonium, magnesium, calcium, lithium, sodium, potassium, and zinc.

21. The process of claim 20, wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

22. The process of claim 20 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

23. The process of claim 18 wherein the wherein the hydroxy analog of methionine is an amide of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of methylamide, dimethylamide,

ethylmethylamide, butylamide, dibutylamide, and butylmethylamide.

24. The process of claim 23, wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

25. The process of claim 23 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

26. The process of claim 18 wherein the wherein the hydroxy analog of methionine is an ester of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of methyl, ethyl, 2-propyl, butyl, and 3-methylbutyl.

27. The process of claim 26, wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

28. The process of claim 26 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

29. The process of claim 26 wherein the hydroxy analog of methionine is a 2-propyl ester of 2-hydroxy-4-(methylthio) butanoic acid.

30. The process of claim 18 wherein the wherein the hydroxy analog of methionine is an oligimer of 2-hydroxy-4-(methylthio) butanoic acid selected from the group consisting of dimers, trimers, and tetramers of 2-hydroxy-4-(methylthio) butanoic acid.

31. The process of claim 30, wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

32. The process of claim 30 wherein about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

33. The process of claim 18 wherein the amount of the hydroxy analog of methionine within the feed ration is determined by a nutritional model wherein the nutritional model is a computer program.

34. The process of claim 18 wherein the ruminant is a dairy cow.

35. The process of claim 34 wherein milk produced by the dairy cow contains increased protein content.

36. The process of claim 34 wherein milk produced contains increased fat content.

37. The process of claim 34 wherein the volume of milk produced is increased.